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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,129	09/10/2003	David G. Therrien	25452-013	3559
36623 7590 09/01/2010 MINTZ, LEVIN, COHN, FERRIS, GLOVSKY AND POPEO, P.C ONE FINANCIAL CENTER BOSTON, MA 02111				
EXAMINER ADAMS, CHARLES D				
ART UNIT		PAPER NUMBER		
2164				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/659,129

Applicant(s)

THERRIEN ET AL.

Examiner

CHARLES D. ADAMS

Art Unit

2164

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5,7-17 and 19-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-16 is/are rejected.
- 7) ☒ Claim(s) 1,3-5,17 and 19-26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-06)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Remarks

1. In response to communications filed on 15 June 2010, claims 1, 5, 7, and 17 are amended. Claims 1, 3-5, 7-17, and 19-26 are pending in the application.

Allowable Subject Matter

2. Claims 1, 3-5, 17, and 19-26 are allowable over the prior art.

Claim Objections

3. Claims 1, 7, and 17 are objected to because of the following informalities:
Claims 1 and 17 include a filter driver that monitors "modification of any existing stored files and/or creation of new files." Claims 1, 7, and 17 all contain a limitation directed towards maintaining a list of "modified and/or created files."

The phrase and/or does not indicate whether or not the filter driver monitors modified files AND created files, or monitors modified files OR created files. It is unclear. Applicant is required to claim either AND or OR, but not both.

Appropriate correction is required.

4. Claims 1 and 17 contain the limitation "including modification of any existing stored files and/or creation of new files as they occur." It is unclear exactly what Applicant intends to claim by using the pronoun "they."

Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 7-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weinman, JR (US Pre-Grant Publication 2002/0055972), in view of Parker et al. (US Patent 6,847,982) and further in view of Zayas et al. (US Patent 6,560,615).

As to claim 7, Weinman teaches:

storing a version of a file within a set of files on a primary disk storage system
(see paragraph [0052]);

capturing a snapshot of the set of files at a particular point in time based on a backup frequency defined in a protection policy (see paragraph [0057]);

examining the protection policy associated with the set of files to determine where and how to protect files associated with the set of files (see paragraphs [0046]-[0047]);

wherein the protection policy defines:

repositories used to protect each share of data (see paragraphs [0045]-[0046]);

number of replicas of each file that are maintained in each repository (see paragraphs [0044] and Figure 5. Each repository that contains a replica contains a single instance of that replica); and

maintenance of modifications to each share of data (see paragraphs [0045], [0046], and [0057]);

and,

replicating the version of the file to two or more repositories specified by the protection policy, wherein the repositories include at least one of a local repository and a remote repository (see paragraph [0030]), wherein a storage location and a number of replicas of the version of the file is configured to be changed over time by a user (see paragraph [0033]);

wherein based on the criticality of the file, the number of stored replicas of the file is increased or decreased in at least one repository (see paragraphs [0033] and [0035]);

wherein the protection policy is configured to be uniquely defined for each set of files (see paragraphs [0044]-[0046]).

Weinman does not teach:

a protection policy defining frequency of data protection;

wherein each repository includes multiple repository nodes, at least one repository node of each repository is configured to store the replica of the file;

Parker et al. teaches:

a protection policy defining frequency of data protection (see 9:6-11);

wherein each repository includes multiple repository nodes, at least one repository node of each repository is configured to store the replica of the file (see 9:57-10:30. There are multiple directories in the repository, at least one of which is configured to store the replica of the file);

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Weinman by Parker et al., because Parker et al. provides Weinman the benefit of using minimum storage onsite, and repeatably and efficiently recreating any requested version of a file (see 2:9-11).

Parker et al. does not teach:

maintaining a list of modified and/or created files since last captured snapshot;

Zayas et al. teaches:

maintaining a list of modified and/or created files since last captured snapshot (see 5:31-40 and 7:16-46).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Weinman by the teaching of Zayas et al., because Zayas et al. provides the benefit of insertion and removal of entries in a modified file list (MFL). In this way, a file is added only once to a MFL (see 7:40-45) which greatly reduces the already low computer system overhead imposed by MFL maintenance (see 8:2-4).

As to claim 8, Weinman as modified teaches wherein the file is configured to have at least one version (see Parker et al. 8:17-25).

As to claim 9, Weinman as modified teaches applying reverse delta compression to the versions of the file when a successive version of the file is stored in the repository (see Parker et al. 9:54-10:4).

As to claim 10, Weinman as modified teaches wherein the step of applying reverse delta compression comprises:

Creating another version of the file, wherein the another version of the file is in a version of the file successive to the version of the file (see Parker et al. 9:54-10:4);

Replicating the another version of the file into the local repository and the remote repository (see Parker et al. 6:42-59 and 9:54-10:4);

Replacing the replicated version of the file in the local repository with a reverse delta compressed version representing a difference between the version of the file and the another version of the file and replicating (see Parker et al. 9:54-10:4);

Transmitting the reverse delta compressed version to the remote repository (see Parker et al. 6:42-59. A reverse delta can be sent with the data with the shipping container as well as a forward delta); and

In the remote repository, replacing the version of the file with the reverse delta compressed version to store the another version and the reverse delta compressed version (see Parker et al. 6:42-59 and Zayas et al. 7:25-32. A reverse delta can be sent with the data with the shipping container as well as a forward delta).

As to claim 11, Weinman teaches wherein examining a protection policy associated with the set of files to determine where and how to protect files associated with the set of files comprises:

determining the location of repositories and a number of replicas of the files to be stored in each repository (see paragraphs [0044] and Figure 5. Each repository that contains a replica contains a single instance of that replica).

As to claim 12, Weinman teaches wherein examining a protection policy associated with the set of files to determine where and how to protect files associated with the set of files comprises:

determining whether to purge a file from a repository after the file has been deleted from a set of files (see Zayas et al. 7:11-15 and 8:5-14).

As to claim 13, Weinman teaches wherein examining a protection policy associated with the set of files to determine where and how to protect files associated with the set of files comprises:

Determining whether to keep a version history of a file in the set of files (see Zayas et al. 7:25-40 and Parker et al. 9:54-10:4).

As to claim 14, Weinman teaches wherein examining a protection policy associated with the set of files to determine where and how to protect files associated with the set of files comprises:

Determining a specified backup frequency for a repository (see Parker et al. 8:17-25 and 9:6-11).

As to claim 15, Weinman teaches wherein examining a protection policy associated with the set of files to determine where and how to protect files associated with the set of files comprises:

Determining a specified type of compression for a file in the set of files (see Parker et al. 6:42-59. A reverse delta can be chosen along with a forward delta to send to the library).

As to claim 16, Weinman as modified teaches wherein examining a protection policy associated with the set of files to determine where and how to protect files associated with the set of files comprises:

Determining a specified caching level of a repository (see Parker et al. 9:12-14. A storing (caching) frequency level is determined and chosen).

Response to Arguments

7. Applicant's arguments filed 15 June 2010 have been fully considered but they are not persuasive.

In regards to claim 7, Applicant argues that "Weinman fails to disclose that based on the criticality of the file, the number of replicas is increased or decreased in at least

one repository, as recited in claim 1. Instead, Weinman pre-defines a minimum number of copies that its network of servers must maintain. Instead, Weinman pre-defines a minimum number of copies that its network of servers must maintain. Weinman does not evaluate whether or not an object is critical and based on that whether or not to increase or decrease the number of its copies. Weinman simply determines whether the number of object copies has fallen below the minimum number because of deletion of copies, server failure, etc., and increases that number appropriately. Criticality of Weinman's objects is irrelevant."

In response to this argument, while Weinman does not explicitly use the word "critical," it is noted that "criticality" of file is simply a measure of a file's importance. The claims do not go into any detail about how criticality is measured. Thus, Weinman does teach criticality of a file, because Weinman teaches a number of copies that *must* be maintained for that file in order to ensure the file is secure, wherein the number of minimum copies can differ from file to file. Based on this minimum number of copies, the number of stored replicas is increased or decreased in at least one server location. Also see paragraph [0035], which explicitly mentions that "n" is higher based on how critical a file is.

Applicant argues that "it does not appear that Weinman's corporate policy defines exactly where to store a copy of an object. This is different from the protection policy of the present invention. Further, according to the presently claimed

embodiments, the number and location of replicas in each repository is configured to be changed over time by a user."

In response to this argument, it is noted that a user (a corporation) creates a policy detailing how to maintain their objects (see paragraph [0035]). This policy is designed to change the number of replicas in each repository, such that the number is at least always above the minimum number of replicas, or below the maximum number of replicas (see paragraphs [0035] and [0036]). While it is true that Weinman's corporate policy doesn't define an exact location of where to store an object, it does set forth rules to determine relative locations of where to store an object (see [0033].) The current claims do not limit "location" to require an exact location, as Applicant argues.

Applicant argues that "As stated above, Weinman fails to capture a snapshot, and instead, it simply maintains a minimum and maximum numbers of copies of an object and a location of each copy." In response to this argument, it is noted that Weinman teaches to capture a "snapshot" of a master set of data when the master is changed, and replicate it by updating all copies of the master of data.

Applicant also adds that "Weinman's servers store a single copy of an object per server. In contrast, the present invention's repositories include at least one repository node, where each node can store a replica of a file, thus allowing storage of multiple copies of replicas of a file. Hence, if entire Weinman's server system crashes, there will not be a copy left, thereby, making Weinman's system inefficient."

In response to this argument, it is noted that, while the claims allow for multiple copies of replica files to be stored in each repository, the claims do not require it. Instead, the claims require only that the version of the file is replicated to two or more repositories, wherein each repository includes multiple repository nodes, at least one of which is configured to store the replica. Thus, only one replica may exist per repository. It is also noted that Parker et al. is relied upon to teach multiple repository nodes in each repository.

In regards to Parker et al., Applicant argues that Parker et al. "walks the system to determine whether there are any files that satisfy any of these three criteria. This is in contrast to the present invention that captures various changes (modification, creation of new files, etc.), as they occur."

In response to this argument, it is noted that claim 7 doesn't contain any limitation about capturing the various changes as they occur.

Applicant argues that "Parker generates a list of forward delta(s) and copies of the new files and sends them to an offsite Library System. This is different from replicating the version of the file to two or more repositories specified by the protection policy, where the repositories include at least one of a local repository and a remote repository, wherein a storage location and a number of replicas of the version of the file can be configured to change over time, and wherein each repository includes multiple repository nodes, at least one of which is configured to store the replica of the file."

In response to this argument, it is noted that Parker et al. is only relied upon to teach the limitations "a protection policy defining frequency of data protection" and "wherein each repository includes multiple repository nodes, at least one of which is configured to store the replica of the file." Parker et al. teaches wherein each repository has multiple repository nodes, in the form of directories (see 9:57-10:30).

Applicant argues that Parker et al. "does not provide any disclosure with regard to criticality aspect of files and changing a number of replicas of those files that are considered more or less critical." In response to this argument, Parker et al. is not relied upon to teach this limitation. However, Parker et al. still teaches it in 7:28-32.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHARLES D. ADAMS whose telephone number is (571)272-3938. The examiner can normally be reached on 8:30 AM - 5:00 PM, M - F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Rones can be reached on (571) 272-4085. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Charles D Adams/
Examiner, Art Unit 2164

/Charles Rones/
Supervisory Patent Examiner, Art Unit 2164